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     FILE 'USPATFULL' ENTERED AT 22:27:13 ON 15 JUN 2003
L1         2286 S RERADIAT? OR RE-RADIATI?
L2            3 S L1 AND SUNSCREEN?
L3            3 S L1 AND (SUNSCREEN? OR SUNBLOCK?)
L4           25 S L1 AND COSMETIC
L5            0 S L1 (3S) (HARMFUL RO HARM? OR DAMAG?) (3S) SKIN
L6           27 S L1 (3S)  SKIN

     FILE 'CAPLUS, MEDLINE, EMBASE, SCISEARCH' ENTERED AT 22:36:44 ON 15 JUN
     2003
L7          382 FILE CAPLUS
L8           23 FILE MEDLINE
L9           30 FILE EMBASE
L10         254 FILE SCISEARCH
     TOTAL FOR ALL FILES
L11         689 S L1
L12           2 FILE CAPLUS
L13           1 FILE MEDLINE
L14           2 FILE EMBASE
L15           4 FILE SCISEARCH
     TOTAL FOR ALL FILES
L16           9 S L11 AND (COSMETIC OR SUNSCREEN OR SUNBLOCK OR SKIN)
L17         323 FILE CAPLUS
L18           9 FILE MEDLINE
L19          20 FILE EMBASE
L20         205 FILE SCISEARCH
     TOTAL FOR ALL FILES
L21         557 S RE-READIAT? OR RERADIAT?
L22         417 FILE CAPLUS
L23          25 FILE MEDLINE
L24          34 FILE EMBASE
L25         284 FILE SCISEARCH
     TOTAL FOR ALL FILES
L26         760 S RE-RADIAT? OR RERADIAT?
L27           2 FILE CAPLUS
L28           1 FILE MEDLINE
L29           2 FILE EMBASE
L30           4 FILE SCISEARCH
     TOTAL FOR ALL FILES
L31           9 S L26 AND (COSMETIC OR SUNSCREEN OR SUNBLOCK OR SKIN)
L32      160390 FILE CAPLUS
L33       11327 FILE MEDLINE
L34       14060 FILE EMBASE
L35       59592 FILE SCISEARCH
     TOTAL FOR ALL FILES
L36      245369 S EMIT? OR EMSSION
L37           8 FILE CAPLUS
L38           5 FILE MEDLINE
L39           9 FILE EMBASE
L40          10 FILE SCISEARCH
     TOTAL FOR ALL FILES
L41          32 S L36 AND (SUNSCREEN OR SUNBLOCK) AND SKIN
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     FILE 'USPATFULL' ENTERED AT 22:27:13 ON 15 JUN 2003
L1         2286 S RERADIAT? OR RE-RADIATI?
L2            3 S L1 AND SUNSCREEN?
L3            3 S L1 AND (SUNSCREEN? OR SUNBLOCK?)
L4           25 S L1 AND COSMETIC
L5            0 S L1 (3S) (HARMFUL RO HARM? OR DAMAG?) (3S) SKIN
L6           27 S L1 (3S)  SKIN

     FILE 'CAPLUS, MEDLINE, EMBASE, SCISEARCH' ENTERED AT 22:36:44 ON 15 JUN
     2003
L7          382 FILE CAPLUS
L8           23 FILE MEDLINE
L9           30 FILE EMBASE
L10         254 FILE SCISEARCH
     TOTAL FOR ALL FILES
L11         689 S L1
L12           2 FILE CAPLUS
L13           1 FILE MEDLINE
L14           2 FILE EMBASE
L15           4 FILE SCISEARCH
     TOTAL FOR ALL FILES
L16           9 S L11 AND (COSMETIC OR SUNSCREEN OR SUNBLOCK OR SKIN)
L17         323 FILE CAPLUS
L18           9 FILE MEDLINE
L19          20 FILE EMBASE
L20         205 FILE SCISEARCH
     TOTAL FOR ALL FILES
L21         557 S RE-READIAT? OR RERADIAT?
L22         417 FILE CAPLUS
L23          25 FILE MEDLINE
L24          34 FILE EMBASE
L25         284 FILE SCISEARCH
     TOTAL FOR ALL FILES
L26         760 S RE-RADIAT? OR RERADIAT?
L27           2 FILE CAPLUS
L28           1 FILE MEDLINE
L29           2 FILE EMBASE
L30           4 FILE SCISEARCH
     TOTAL FOR ALL FILES
L31           9 S L26 AND (COSMETIC OR SUNSCREEN OR SUNBLOCK OR SKIN)
L32      160390 FILE CAPLUS
L33       11327 FILE MEDLINE
L34       14060 FILE EMBASE
L35       59592 FILE SCISEARCH
     TOTAL FOR ALL FILES
L36      245369 S EMIT? OR EMSSION
L37           8 FILE CAPLUS
L38           5 FILE MEDLINE
L39           9 FILE EMBASE
L40          10 FILE SCISEARCH
     TOTAL FOR ALL FILES
L41          32 S L36 AND (SUNSCREEN OR SUNBLOCK) AND SKIN
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L41 ANSWER 29 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 96:452304 SCISEARCH
GA The Genuine Article (R) Number: UQ162
TI ULTRAVIOLET SPECTRAL ENERGY DIFFERENCES AFFECT THE ABILITY OF **SUNSCREEN** LOTIONS TO PREVENT ULTRAVIOLET-RADIATION-INDUCED IMMUNOSUPPRESSION
AU ROBERTS L K (Reprint); BEASLEY D G; LEARN D B; GIDDENS L D; BEARD J; STANFIELD J W
CS SCHERING PLOUGH CORP, HEALTHCARE PROD, ADV PROD RES, AR-3-59, 3030 JACKSON AVE, MEMPHIS, TN, 38151 (Reprint); SCHERING PLOUGH CORP, HEALTHCARE PROD, SOLAR RES LABS, MEMPHIS, TN, 38151
CYA USA
SO PHOTOCHEMISTRY AND PHOTOBIOLOGY, (JUN 1996) Vol. 63, No. 6, pp. 874-884. ISSN: 0031-8655.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 48
AB Acute exposure to UV radiation causes immunosuppression of contact hypersensitivity (CH) responses, Past studies conducted with unfiltered sunlamps **emitting** nonsolar spectrum UV power (wavelengths below 295 nm) or using excessive UV doses have suggested **sunscreens** may not prevent UV-induced immunosuppression in mice, This study was thus designed to evaluate critically the effects of different UV energy spectra on the immune protection capacity of **sunscreen** lotions, Minimum immune suppression doses (MISD), i.e. the lowest UV dose to cause similar to 50% suppression of the CH response to dinitrofluorobenzene in C3H mice, were established for three artificial UV sources, The MISD for each UV source was 0.25 kJ/m(2) for unfiltered FS20 sunlamps (FS), 0.90 kJ/m(2) for Kodacel-filtered FS20 sunlamps (KFS), which do not **emit** UV power at wavelengths <290 nm, and 1.35 kJ/m(2) for a 1000 W filtered xenon are lamp solar simulator, Using MISD as baseline, **sunscreens** with labeled sun protection factors (SPF) of 4, 8, 15 and 30 were tested with each UV source to establish their relative immune protection factors, The immune protection factor of each **sunscreen** exceeded its labeled SPF in tests conducted with the solar simulator, which has a UV power spectrum (295-400 nm) similar to that of sunlight. Conversely, **sunscreen** immune protection factors were significantly less than the labeled SPF in tests conducted with FS and KFS, Comparison of the immunosuppression effectiveness spectra showed that relatively small amounts of nonsolar spectrum UV energy, i.e. UVC (200-290 nm) and/or shorter wavelength UVB (between 290 and 295 nm), produced by FS and KFS contributes significantly to the induction of immunosuppression. For example, 36.3% and 3.5% of the total immunosuppressive UV energy from FS and KFS, respectively, lies below 295 nm, **Sunscreen** absorption spectra showed that transmission of immunosuppressive UV energy below 295 nm fur FS was at least eight-fold higher than that fur KFS, Compared to the solar simulator UV spectrum the transmission of non-solar immunosuppressive UV energy through **sunscreens** was >15-fold higher for FS and greater than or equal to 1.5-fold higher for KFS, These data demonstrate that relevant evaluations of **sunscreen** immune protection can only be obtained when tests are conducted with UV sources that produce UV power spectra similar to that of sunlight and UV doses are employed that are based on established MISD.
CC BIOPHYSICS; BIOCHEMISTRY & MOLECULAR BIOLOGY
STP KeyWords Plus (R): CONTACT HYPERSENSITIVITY; HUMAN-**SKIN**; INDUCED SUPPRESSION; AMINOBENZOIC ACID; CELL-ACTIVITY; MICE; INDUCTION; DNA; PROTECTION; RESPONSES
RF 94-0898 001; STRATOSPHERIC OZONE DEPLETION; PINATUBO AEROSOL; ULTRAVIOLET-B RADIATION; HETEROGENEOUS CHEMISTRY
RE

|1992 | |1 |BIOL RESPONSES ULTRA

L41 ANSWER 27 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 97:84982 SCISEARCH
GA The Genuine Article (R) Number: WD125
TI Broad-spectrum **sunscreens** with UVA I and UVA II absorbers provide increased protection against solar-simulating radiation-induced dermal damage in hairless mice
AU Kligman L H (Reprint); Agin P P; Sayre R M
CS UNIV PENN, SCH MED, DEPT DERMATOL, PHILADELPHIA, PA 19104 (Reprint); SCHERING PLOUGH CORP, HLTH CARE PROD, RES & DEV, MEMPHIS, TN 38151; RAPID PRECIS TESTING LAB, CORDOVA, TN
CYA USA
SO JOURNAL OF THE SOCIETY OF COSMETIC CHEMISTS, (MAY-JUN 1996) Vol. 47, No. 3, pp. 129-155.
Publisher: SOC COSMETIC CHEMISTS, 120 WALL STREET, SUITE 2400, NEW YORK, NY 10005-4088.
ISSN: 0037-9832.
DT Article; Journal
LA English
REC Reference Count: 23
AB Previous experiments designed to examine **sunscreen** protection against chronic UV radiation-induced **skin** damage in hairless mice have used radiation sources **emitting** mainly UVB or UVA radiation. Because humans are exposed to full-spectrum solar radiation, we were interested in examining the efficacy of three **sunscreens**, with increasing spectral absorption into the UVA range, against chronic solar-simulating radiation (SSR). Three groups of hairless mice received a cumulative SSR dose of 10 and 16 times a previously determined minimal photoaging dose (MPD) over periods of 18 and 30 weeks. Each twice-weekly exposure was designed to equal the SPF value of the first **sunscreen**, an SPF-7 **sunscreen** containing the UVB absorber octyl methoxycinnamate. The second **sunscreen**, in addition to the UVB absorber, contained a UVA II absorber (oxybenzone) and had an SPF of 16. The third, with an SPF of 18, contained the UVB and UVA II absorbers plus a UVA I absorber (avobenzone). These conditions allowed assessment of the effects of UVB and UVA radiation that are normally transmitted through all **sunscreens**. Although none of the **sunscreen**-treated mice developed erythema, considerable dermal matrix damage occurred in the SPF-7 group, with greater damage at 16 MPD than at 10 MPD. The SPF-16 **sunscreen** allowed less but clearly recognizable damage at both dose points. The SPF-18 **sunscreen** with the broadest spectral absorption provided the greatest protection. These results support the need for high-SPF broad-spectrum **sunscreen** protection that includes the entire UVA spectrum to reduce photodamage that results from chronic exposure to sunlight.
CC CHEMISTRY, APPLIED; DERMATOLOGY & VENEREAL DISEASES
STP KeyWords Plus (R): MOUSE **SKIN**; ULTRAVIOLET; IRRADIATION; COLLAGENASE; INVIVO
RE

L41 ANSWER 26 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 97:460481 SCISEARCH
GA The Genuine Article (R) Number: XE030
TI Oxidative stress and in vivo chemiluminescence in mouse **skin** exposed to UVA radiation
AU Evelson P (Reprint); Ordonez C P; Llesuy S; Boveris A
CS UNIV BUENOS AIRES, FAC FARM & BIOQUIM, CATEDRA FISICOQUIM, JUNIN 956, RA-1113 BUENOS AIRES, DF, ARGENTINA (Reprint); UNIV BUENOS AIRES, FAC FARM & BIOQUIM, CATEDRA QUIM GEN & INORGAN, RA-1113 BUENOS AIRES, DF, ARGENTINA
CYA ARGENTINA
SO JOURNAL OF PHOTOCHEMISTRY AND PHOTOBIOLOGY B-BIOLOGY, (APR 1997) Vol. 38, No. 2-3, pp. 215-219.
Publisher: ELSEVIER SCIENCE SA LAUSANNE, PO BOX 564, 1001 LAUSANNE 1, SWITZERLAND.
ISSN: 1011-1344.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 27
AB Mouse **skin** was exposed to UVA radiation (320-400 nm). The in vivo chemiluminescence of the **skin** was measured after irradiation. Chemiluminescence showed a maximum 13-fold increase (control emission, 10+/-1 cps cm(-2)) after 45-60 min of exposure to UVA, with no further increase with 60 min additional exposure. Spectral analysis of the **emitted** chemiluminescence showed that the principal species **emitted** in the 400-500 nm range. Topical application with alpha-tocopherol (10% v/w) and beta-carotene (1 mM) greatly reduced the UVA-induced **skin** chemiluminescence. Thiobarbituric acid reactive substance (TEARS) levels were increased by 130% in **skin** homogenates after 2 h of exposure to UVA (control value, 77 +/- 14 nmol malonaldehyde equivalents (g tissue) (-1)). The activities of antioxidant enzymes in **skin** homogenates were decreased after 2 h of irradiation: the superoxide dismutase (SOD) activity (control value, 181+/-10 U SOD (g tissue)(-1)) was decreased by 40% and the catalase activity (control value, 1.34+/-0.14 pmol (g tissue)(-1)) was decreased by 45%. In vivo chemiluminescence appears to be a suitable method for following the kinetics of the **skin** oxidative stress processes and for testing the effect of topical application with antioxidants and photoprotective agents. (C) 1997 Elsevier Science S.A.
CC BIOPHYSICS; BIOCHEMISTRY & MOLECULAR BIOLOGY
ST Author Keywords: chemiluminescence; lipid peroxidation; oxidative stress; photoprotectors; UVA
STP KeyWords Plus (R): LIPID-PEROXIDATION; CHEMI-LUMINESCENCE; ULTRAVIOLET-RADIATION; MECHANISMS; LIGHT; REPERFUSION; **SUNSCREENS**; EPIDERMIS; MODEL; LIVER
RE

Referenced Author	Year	VOL	PG	Referenced Work

L41 ANSWER 25 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 97:507680 SCISEARCH
GA The Genuine Article (R) Number: XH200
TI **Sunscreens** prevent local and systemic immunosuppression of contact hypersensitivity in mice exposed to solar-simulated ultraviolet radiation
AU Roberts L K (Reprint); Beasley D G
CS SCHERING PLOUGH CORP, HEALTHCARE PROD, ADV PROD RES, AR-3-59, 3030 JACKSON AVE, MEMPHIS, TN 38151 (Reprint)
CYA USA
SO JOURNAL OF PHOTOCHEMISTRY AND PHOTOBIOLOGY B-BIOLOGY, (JUN 1997) Vol. 39, No. 2, pp. 121-129.
Publisher: ELSEVIER SCIENCE SA LAUSANNE, PO BOX 564, 1001 LAUSANNE, SWITZERLAND.
ISSN: 1011-1344.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 46
AB Ultraviolet (UV) irradiation causes the immunosuppression of contact hypersensitivity (CH) responses in animals and humans. There are conflicting reports regarding the effectiveness of **sunscreens** in preventing UV-induced suppression of both local-type CH (induced by the application of the contact sensitizer directly to UV-exposed **skin**) and systemic-type CH (induced by the application of the contact sensitizer to an unirradiated **skin** site 3 days after UV exposure). The purposes of this study were as follows:

1. to derive solar simulator UV dose-response curves for the induction of local and systemic CH suppression in C3H mice; 2, to establish minimum immune suppression doses (MISDs) for local and systemic CH;

3. to determine the local and systemic immune protection capacity of two commercial **sunscreen** lotions with labeled sun protection factors (SPFs) of 4 and 8,

Dose-response curves for the induction of local and systemic CH suppression were derived by exposing groups of mice to a range of full-spectrum UV doses (0.37-21.4 kJ m(-2)) on two consecutive days delivered from a filtered 1000 W xenon are lamp solar simulator. The MISDs, defined as the lowest dose tested to cause approximately 50% suppression of the normal CH response, were obtained from the dose-response curves. Although the local and systemic immunosuppression dose-response curves were not statistically different, the MISD for local suppression of CH (1.35 kJ m(-2)) was about fivefold lower than that for systemic CH suppression (6.76 kJ m(-2)). The MISD was used as the endpoint to determine **sunscreen** immune protection levels. Both **sunscreens**, applied at 2 mg cm(-2), provided immune protection against the induction of local and systemic CH suppression in mice exposed to an effective UV dose of 1 MISD given through the **sunscreen**, i.e. 4 MISD to SPF 4 **sunscreen**-protected mice and 8 MISD to SPF 8 **sunscreen**-protected mice mounted CH responses that were significantly greater than those elicited in unprotected mice exposed to 1 MISD of solar simulated UV radiation. The calculated immune protection factors for these **sunscreens** exceeded the level of protection predicted by their labeled SPFs, i.e. the local immune protection factor of both **sunscreens** was 15 and the systemic immune protection factors were 8 for the SPF 4 **sunscreen** and 15 for the SPF 8 **sunscreen**. Our data show that these two **sunscreens** provide levels of immune protection which exceed the levels predicted by their labeled SPFs in immunoprotection tests conducted in mice exposed to a relevant MISD of UV radiation from a source **emitting** a UV power spectrum similar to that of sunlight. (C) Elsevier Science S.A.
CC BIOPHYSICS; BIOCHEMISTRY & MOLECULAR BIOLOGY
ST Author Keywords: contact hypersensitivity; immunoprotection; immunosuppression; mice; **sunscreen**; UV

STP KeyWords Plus (R): HUMAN-**SKIN**; IMMUNOLOGICAL-UNRESPONSIVENESS; ALLOACTIVATING CAPACITY; INDUCED INFLAMMATION; INDUCED SUPPRESSION; IMMUNE SUPPRESSION; AMINOBENZOIC ACID; SUN PROTECTION; UV EXPOSURE; INDUCTION

RE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)

L41 ANSWER 24 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 1998:677988 SCISEARCH
GA The Genuine Article (R) Number: 115TU
TI Commercial **sunscreen** lotions prevent ultraviolet radiation-induced depletion of epidermal Langerhans cells in Skh-1 and C3H mice
AU Beasley D G (Reprint); Montgomery M A; Moloney S J; Edmonds S; Roberts L K
CS SCHERING PLOUGH HEALTHCARE PROD, RES & DEV, 3030 JACKSON AVE, MEMPHIS, TN 38151 (Reprint)
CYA USA
SO PHOTODERMATOLOGY PHOTOIMMUNOLOGY & PHOTOMEDICINE, (JUN-AUG 1998) Vol. 14, No. 3-4, pp. 90-99.
Publisher: MUNKSGAARD INT PUBL LTD, 35 NORRE SOGADE, PO BOX 2148, DK-1016 COPENHAGEN, DENMARK.
ISSN: 0905-4383.
DT Article; Journal
FS CLIN
LA English
REC Reference Count: 43
AB There is much controversy regarding the ability of **sunscreens** to prevent ultraviolet (UV)-induced immune suppression. Epidermal Langerhans cells (LC) play a key antigen-presenting role in the afferent limb of the immune system's response to antigens introduced through the **skin**. It has been suggested that depletion of LC in W-exposed **skin** is a critical step toward the induction of immunosuppression by UV radiation. There are a number of disparate reports with inconsistent results concerning the ability of **sunscreens** to prevent UV-induced depletion of LC. The purpose of this study was to systematically evaluate the ability of **sunscreens** to prevent UV-induced LC depletion in mice. Epidermal sheets obtained from **skin** biopsies taken from mice exposed to UV radiation from Kodacel-filtered FS20 sunlamps, which do not **emit** UV power at wavelengths <290 MI, were immunoperoxidase stained for LC using a rat monoclonal antibody against mouse Ia (major histocompatibility complex class II antigen). Time course and dose-response curves for LC depletion were generated for Skh-1 and C3H mice. Dose-response curves for acute UV exposure induced depletion of LC in Skh-1 and C3H mice were similar, but not identical. LC density in the **skin** of Skh-1 mice that received chronic UV exposure (3 days/week for 8 weeks) was reduced by 62% after 2 weeks of exposure, but returned to normal levels by 6 weeks. Five commercial **sunscreen** lotions with labeled sun protection factors (SPF) of 4, 8, 15, 30 and 45 were tested for their capacity to block W-induced depletion of LC. LC were depleted similar to 75% in the **skin** of unprotected or placebo lotion treated Skh-1 mice exposed to UV given on two consecutive days. Conversely, LC depletion was prevented in similarly UV exposed Skh-1 mice protected with a SPF 30 **sunscreen**. In C3H mice the levels of protection against LC depletion provided by the five **sunscreens** were proportional to the level of protection predicted by their labeled SPE Comparisons of dose-response curves showed that significantly higher doses of UV were required for LC depletion and induction of **skin** edema than for the induction of local suppression of contact hypersensitivity. Thus, at UV doses where **sunscreens** provide complete protection against immunosuppression of contact hypertensitivity, prevention of LC depletion and **skin** edema would be expected.
CC DERMATOLOGY & VENEREAL DISEASES
ST Author Keywords: ultraviolet rays; **skin**; immunosuppression; Langerhans cells; **sunscreen**
STP KeyWords Plus (R): CONTACT HYPERSENSITIVITY; HUMAN-**SKIN**; INDUCED SUPPRESSION; INDUCED IMMUNOSUPPRESSION; ALLOACTIVATING CAPACITY; INDUCED INFLAMMATION; IMMUNE SUPPRESSION; AMINOBENZOIC ACID; SUN PROTECTION; LIGHT
RE

Referenced Author	Year	VOL	PG	Referenced Work

(RAU) | (RPY) | (RVL) | (RPG) | (RWK)

L41 ANSWER 23 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2002:800457 SCISEARCH
GA The Genuine Article (R) Number: 594KK
TI Tanning salons in southwest Poland: a survey of safety standards and professional knowledge of the staff
AU Szepietowski J C (Reprint); Nowicka D; Soter K; Strzelecka E; Kozera M; Salomon J
CS Univ Med Wroclaw, Dept Dermatol & Venereol, Ul Chalubinskiego 1, PL-50368 Wroclaw, Poland (Reprint); Univ Med Wroclaw, Dept Dermatol & Venereol, PL-50368 Wroclaw, Poland
CYA Poland
SO PHOTODERMATOLOGY PHOTOIMMUNOLOGY & PHOTOMEDICINE, (AUG 2002) Vol. 18, No. 4, pp. 179-182.
Publisher: BLACKWELL MUNKSGAARD, 35 NORRE SOGADE, PO BOX 2148, DK-1016 COPENHAGEN, DENMARK.
ISSN: 0905-4383.
DT Article; Journal
LA English
REC Reference Count: 6
AB Background. Nowadays, sunbeds are very popular worldwide; however - in the majority of countries, including Poland - there are no general guidelines and/or regulations for sunbed usage.

Purpose: The aim of the study was to evaluate tanning salons in southwest Poland, paying special attention to safety regulations and basic professional knowledge of the staff members of these units. The hypothesis was put that tanning salons offer better **skin** and eye protection if their employees are more educated.

Methods: Fifty-five sunbed units were visited by the investigators, acting as potential clients. Information was obtained from the staff members in response to previously designed questionnaire.

Results: Employees of 41.8% of sunbed units had adequate knowledge of radiation used in their establishments. Goggles were provided in 72.7%, sunglasses in additional 25.5% of salons. Lotions with **sunscreens** were available in 41.8% of units. Brief medical history of the client was taken in 20% of units. No dermatological examination was performed. Tanning salons, where employed staff were well-orientated in ultraviolet radiation **emitted** in their units, significantly more frequently recommended usage of goggles and **sunscreens** (P = 0.0037 and P = 0.0033, respectively). Moreover, in these establishments **sunscreens** were more commonly available (P = 0.0029).

Conclusions: The knowledge of staff members of tanning salons is poor and the eye and **skin** protection is not enough. The results point out the importance of the knowledge of the staff members in providing **skin** and eye protection.
CC DERMATOLOGY & VENEREAL DISEASES
ST Author Keywords: eye protection; **skin** protection; sunbeds; tanning; UVA; UVB
STP KeyWords Plus (R): AREA SURVEY; RISKS
RE

Referenced Author	Year	VOL	PG	R

L41 ANSWER 22 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 82118071 EMBASE
DN 1982118071
TI Solar urticaria. Determinations of action and inhibition spectra.
AU Hasei K.; Ichihashi M.
CS Dept. Dermatol., Kobe Univ. Sch. Med., 650 Kobe, Japan
SO Archives of Dermatology, (1982) 118/5 (346-350).
CODEN: ARDEAC
CY United States
DT Journal
FS 037 Drug Literature Index
013 Dermatology and Venereology
026 Immunology, Serology and Transplantation
LA English
AB A 42-year-old woman acquired solar urticaria approximately ten minutes after exposure to sunlight. Urticaria developed from visible light **emitted** from a projector lamp after a similar time lag. Monochromatic rays between 400 and 500 nm induced immediate urticaria by irradiation, with four times the minimal urticarial dose. Urticaria that was induced by monochromatic rays or the projector lamp was completely inhibited by immediate reirradiation of test sites with light waves longer than 530 nm. Radiant heat exposure from an electric hair dryer at 50.degree. C had no suppressive effects on the development of urticarial lesions.
CT Medical Descriptors:
*homochlorcyclizine
*photoallergy
*solar urticaria
*ultraviolet radiation
*urticaria
clinical study
induction
inhibition
diagnosis
case report
therapy
topical drug administration
drug comparison
Drug Descriptors:
*beta carotene
*bithionol
*hexachlorophene
*hydroxyzine
*indometacin
*reserpine
***skin protective agent**
***sunscreen**
*tetrachlorsalan
*tranexamic acid
*tribromsalan
aminosalicylic acid
isoniazid

L41 ANSWER 21 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 89055481 EMBASE
DN 1989055481
TI The lives of pigment cells.
AU Nordlund J.J.
CS Department of Dermatology, University of Cincinnati College of Medicine, Cincinnati, OH 45267, United States
SO Clinics in Geriatric Medicine, (1989) 5/1 (91-108).
ISSN: 0749-0690 CODEN: CGMEE6
CY United States
DT Journal
FS 002 Physiology
013 Dermatology and Venereology
020 Gerontology and Geriatrics
LA English
SL English
AB It is common knowledge that melanocytes reside in the **skin** and in the eyes. A popular misconception is that the only function of pigment cells is to provide for the **skin** and eyes a shield against visible and ultraviolet radiation **emitted** by the sun. Indeed, the cells synthesize melanin, which does absorb most electromagnetic irradiation, albeit not efficiently. However, melanocytes and melanin have other important functions both during embryogenesis and during extrauterine life. Like all cells in the body, melanocytes are subject to the biological enigma called aging. The defects associated with aging (the loss of number and function of cells) seem to affect the pigmentary system. This loss of melanocytes and the decreased function are observable in the graying of hair, the loss of nevi with age, and the smaller quantity of melanin within the eyes and other tissues. We will trace the lives of pigment cells beginning at their origin in the neural crest during the first weeks of embryogenesis, through fetal life, and through the extrauterine existence of the human being. The evolutionary value of the pigmentary system has been the subject of consideration for many thoughtful biologist and recently has been reviewed. It is likely that melanin functions in many ways, for example, as a **sunscreen**, as an oxygen scavenger, as a by-product for detoxification of tyrosine and cysteine radicals, as an embryologic inducer, and possibly as a toxin responsible for the induction of **skin** cancers such as melanomas. Some of these functions will be re-emphasized later.
CT Medical Descriptors:
*choroid
*eye
*hair
*melanocyte
*neural crest
*pigment cell
***skin**
age
aged
short survey
human

L41 ANSWER 20 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 90088741 EMBASE
DN 1990088741
TI The effect of short-term application of PABA on photocarcinogenesis.
AU Flindt-Hansen H.; Thune P.; Eeg-Larsen T.
CS Department of Dermatology, Ullevaal Hospital,N-0407 Oslo 4, Norway
SO Acta Dermato-Venereologica, (1990) 70/1 (72-75).
ISSN: 0001-5555 CODEN: ADVEA4
CY Sweden
DT Journal; Article
FS 013 Dermatology and Venereology
016 Cancer
LA English
SL English
AB Photocarcinogenesis was induced in 90 lightly-pigmented hairless mice using a Philips Tl 40 W/12 light source which **emits** mainly UVB (290-320 nm). During one-third of the induction period (weeks 16-26) a group of 30 mice were protected by topical para-aminobenzoic acid (PABA) and then irradiated again without protection up to week 30 and observed for a further 10 weeks. The application of PABA resulted in a significant delay ($p < 0.05$) in tumour induction and discontinuation of PABA caused an abrupt decline in the number of tumour-free animals. At the end of the study there was a significant difference in the yield of carcinomas for the PABA group, 20, compared with 78 for non-protected mice ($p < 0.05$). There was also a statistically significant difference ($p < 0.05$) between the weight of dorsal **skin** in non-protected mice compared with the PABA-protected group, the latter showing no difference from a control group of non-irradiated mice. The proportion of benign tumours in the PABA group was significantly ($p < 0.05$) higher than in the non-protected group, suggesting an inhibition of the photocarcinogenic process.
CT Medical Descriptors:
*radiation carcinogenesis
***skin cancer**
*ultraviolet radiation
mouse
animal experiment
animal cell
nonhuman
article
priority journal
Drug Descriptors:
***sunscreen**
4 aminobenzoic acid
RN (4 aminobenzoic acid) 150-13-0

L41 ANSWER 19 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 90140539 EMBASE
DN 1990140539
TI Photocarcinogenesis is retarded by a partly photodegraded solution of para-aminobenzoic acid.
AU Flindt-Hansen H.; Thune P.; Nielsen C.J.
CS Department of Dermatology, Ullevaal Hospital, N-0407 Oslo 4, Norway
SO Photodermatology, (1989) 6/6 (263-267).
ISSN: 0108-9684 CODEN: PHTDEI
CY Denmark
DT Journal; Article
FS 013 Dermatology and Venereology
016 Cancer
030 Pharmacology
037 Drug Literature Index
LA English
SL English
AB A solution of para-aminobenzoic acid (PABA) was exposed to ultraviolet (UV) radiation **emitted** from a Philips TL 40 W/12 sunlamp and the degree of photodegradation following an exposure of 27 J/cm2 was estimated to be approximately 40%. The formation of the photoproducts was confirmed by mass spectroscopy and UV spectroscopy. The solution was painted on the backs of hairless light-pigmented mice prior to daily UV irradiation by the above sunlamp, and this procedure was continued for 30 weeks. The preirradiated solution of PABA significantly retarded the tumor induction time and reduced significantly the number of squamous cell carcinomas compared with non-protected controls. This tumor-retarding ability did not differ significantly from the effect achieved then using nonirradiated PABA.
CT Medical Descriptors:
*photodegradation
*radiation carcinogenesis
***skin cancer**
*ultraviolet radiation
mouse
animal experiment
animal cell
nonhuman
article
Drug Descriptors:
***sunscreen**
*4 aminobenzoic acid
RN (4 aminobenzoic acid) 150-13-0

L41 ANSWER 18 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 90251342 EMBASE
DN 1990251342
TI [Study on the effectiveness of a **sunscreen** containing ethoxy cynnamate and dibenzoylmethane].
STUDIO SULL'EFFICACIA DI UNO SCHERMO SOLARE A BASE DI METOSSICINNAMATO E DIBENZOILMETANO.
AU Procaccini E.M.; Criscuolo I.; Perrelli P.; Monfrecola G.
CS Clinica Dermatologica, II Facolta di Medicina, Via S. Pansini 5, 80131 Napoli, Italy
SO Annali Italiani di Dermatologia Clinica e Sperimentale, (1990) 44/1 (25-29).
ISSN: 0003-4703 CODEN: ADCRAG
CY Italy
DT Journal; Article
FS 013 Dermatology and Venereology
037 Drug Literature Index
LA Italian
SL English
AB The effectiveness of a **sunscreen** containing methoxy cynnamate and dibenzoylmethane has been evaluated in 12 healthy volunteers. For each subject, two symmetric areas of bottoms (one of them previously receiving the **sunscreen**) have been irradiated with a bank of three 400 W metal halide lamps, **emitting** in the UVB range (max at 300 nm), in order to detect the Minimal Erythema Dose (MED). The MED values have been determined by a color analyzer. The results have shown that, at least in the UVB range, the MED values of the **sunscreen**-protected **skin** areas were 3-8 fold higher than that of the unprotected areas.
CT Medical Descriptors:
human
normal human
human experiment
article
Drug Descriptors:
***sunscreen**
*4 methoxycinnamic acid 2 ethylhexyl ester
*avobenzone
RN (4 methoxycinnamic acid 2 ethylhexyl ester) 5466-77-3; (avobenzone) 70356-09-1

L41 ANSWER 17 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 97206026 EMBASE
DN 1997206026
TI **Sunscreens** prevent local and systemic immunosuppression of contact hypersensitivity in mice exposed to solar-simulated ultraviolet radiation.
AU Roberts L.K.; Beasley D.G.
CS L.K. Roberts, Advanced Product Research, AR-3-59, Schering-Plough HealthCare Products, 3030 Jackson Avenue, Memphis, TN 38151, United States
SO Journal of Photochemistry and Photobiology B: Biology, (1997) 39/2 (121-129).
Refs: 46
ISSN: 1011-1344 CODEN: JPPBEG
PUI S 1011-1344(97)00003-1
CY Switzerland
DT Journal; Article
FS 013 Dermatology and Venereology
026 Immunology, Serology and Transplantation
030 Pharmacology
037 Drug Literature Index
039 Pharmacy
LA English
SL English
AB Ultraviolet (UV) irradiation causes the immunosuppression of contact hypersensitivity (CH) responses in animals and humans. There are conflicting reports regarding the effectiveness of **sunscreens** in preventing UV-induced suppression of both local-type CH (induced by the application of the contact sensitizer directly to UV-exposed **skin**) and systemic-type CH (induced by the application of the contact sensitizer to an unirradiated **skin** site 3 days after UV exposure). The purposes of this study were as follows: 1. to derive solar simulator UV dose-response curves for the induction of local and systemic CH suppression in C3H mice; 2. to establish minimum immune suppression doses (MISDs) for local and systemic CH; 3. to determine the local and systemic immune protection capacity of two commercial **sunscreen** lotions with labeled sun protection factors (SPFs) of 4 and 8. Dose-response curves for the induction of local and systemic CH suppression were derived by exposing groups of mice to a range of full-spectrum UV doses (0.37-21.4 kJ m-2) on two consecutive days delivered from a filtered 1000 W xenon arc lamp solar simulator. The MISDs, defined as the lowest dose tested to cause approximately 50% suppression of the normal CH response, were obtained from the dose-response curves. Although the local and systemic immunosuppression dose-response curves were not statistically different, the MISD for local suppression of CH (1.35 kJ m-2) was about fivefold lower than that for systemic CH suppression (6.76 kJ m-2). The MISD was used as the endpoint to determine **sunscreen** immune protection levels. Both **sunscreens**, applied at 2 mg cm-2, provided immune protection against the induction of local and systemic CH suppression in mice exposed to an effective UV dose of 1 MISD given through the **sunscreen**, i.e. 4 MISD to SPF 4 **sunscreen**-protected mice and 8 MISD to SPF 8 **sunscreen**-protected mice mounted CH responses that were significantly greater than those elicited in unprotected mice exposed to 1 MISD of solar-simulated UV radiation. The calculated immune protection factors for these **sunscreens** exceeded the level of protection predicted by their labeled SPFs, i.e. the local immune protection factor of both **sunscreens** was 15 and the systemic immune protection factors were 8 for the SPF 4 **sunscreen** and 15 for the SPF 8 **sunscreen**. Our data show that these two **sunscreens** provide levels of immune protection which exceed the levels predicted by their labeled SPFs in immunoprotection tests conducted in mice exposed to a relevant MISD of UV radiation from a source **emitting** a UV power spectrum similar to that of sunlight.

CT Medical Descriptors:
*contact allergy
*immune deficiency
*solar radiation
animal experiment
article
controlled study
dose response
drug formulation
female
mouse
nonhuman
priority journal
topical drug administration
ultraviolet radiation
Drug Descriptors:
***sunscreen: DV, drug development**
***sunscreen: PR, pharmaceutics**
4 methoxycinnamic acid 2 ethylhexyl ester: DV, drug development
4 methoxycinnamic acid 2 ethylhexyl ester: PR, pharmaceutics
coppertone: DV, drug development
coppertone: PR, pharmaceutics
oxybenzone: DV, drug development
oxybenzone: PR, pharmaceutics

RN (4 methoxycinnamic acid 2 ethylhexyl ester) 5466-77-3; (oxybenzone) 131-57-7

CN (1) Coppertone

CO (1) Schering plough (United States)

L41 ANSWER 16 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 1998263802 EMBASE
TI [Solar simulators and sunlight].
SIMULATEURS SOLAIRES ET SOLEIL STANDARD.
AU Chardon A.
CS A. Chardon, L'Oreal, Recherche Appliquee et Developpement, 92110 Clichy, France
SO Nouvelles Dermatologiques, (1998) 17/5 (330-335).
Refs: 22
ISSN: 0752-5370 CODEN: NODEE2
CY France
DT Journal; Article
FS 013 Dermatology and Venereology
027 Biophysics, Bioengineering and Medical Instrumentation
LA French
SL English; French
AB The solar simulator, based on a filtered xenon lamp to simulate the total ultraviolet spectrum of the sunlight, were originally developed in the USA about thirty ears go. They are widely used for the determination of the Sun Protection Factor (SPF) of **sunscreens** or for photobiological studies. Now, it has been suggested that the spectrum **emitted** by such simulators was not accurately balanced to the detriment of its content in UVA energy, which may induce a significant bias in the evaluation of the **sunscreens** efficacy: SPF, photostability, UVA protection. The aim of this study was to compare the characteristics of solar simulator spectra with realistic solar irradiance conditions, in order to determine the standard values to be respected and the corresponding UV doses to be applied per MED unit in photostability testing. The key results indicate that in quasi-zenithal conditions of sun exposure (limit conditions) at sea level air mass 1) the mean UV, UVB and UVA fluxes are respectively about 5.9, 0.31 and 5.6 mW/cm2 with a UVA/UVB ratio of 18.3/1, while the ratio of the erythemal effective fluxes UVBe/UVAe is 4.7/1; thus, about 83% of the erythema is due to the UVB rays and 17% to the UVA. In more temperature conditions, for a sun height above the horizon of 42.degree.(air mass 1.5), the UVA/UVB ratio is then higher than 20/1 and about 25% of the erythema is due to the UVA rays. The quantity of total UV energy delivered with one standard MED (21 mJ/cm2e) is 5.6 J/cm2 in the zenithal sun, and about 8 J/cm2 in a the temperature sun. With the usuel solar simulators (xenon filtered with WG320/1 mm) the ratio of the erythemal effective fluxes UVBe/UVAe is higher than 10/1; in these conditions, less than 10% of the erythema is due to the UVA and the total UV dose applied per MED is only about 2 J/cm2, i.e. three times less than that received in the actuel sun. Thus, the output spectrum of usuel solar simulators is not representative of realistic conditions of sun exposure, because of an excess of UVB erythemal efficacy and/or a defect of UVA energy. As indicative data, a minimal thickness of 1.5 mm WG320 filter is generally necessary as short cut-off filter to better mimic the sun. But, the recommendation of such a filtering system is not sufficient: every solar simulator should be checked by spectroradiometry in definite conditions and the optical system adapted for the characteristics of the output spectrum to closely approach the nominal values of the 'standard sun' according to the Colipa SPF test method, without exceeding its UVB relative content.
CT Medical Descriptors:
*solar radiation
***skin protection**
simulator
ultraviolet b radiation
ultraviolet a radiation
radiation dose
erythema
sunlight
spectral sensitivity

article

L41 ANSWER 13 OF 32 MEDLINE
AN 85165732 MEDLINE
DN 85165732 PubMed ID: 6531284
TI UVA sensitivity and topical photoprotection in polymorphous light eruption.
AU McFadden N
SO PHOTO-DERMATOLOGY, (1984 Apr) 1 (2) 76-8.
Journal code: 8407997. ISSN: 0108-9684.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198504
ED Entered STN: 19900320
Last Updated on STN: 19900320
Entered Medline: 19850429
AB The efficacy of a non-PABA, non-benzophenone broad-spectrum **sunscreen** was investigated experimentally in 8 patients with polymorphous light eruption (PMLE). A UVA-SUN 2000 lamp, **emitting** high intensity UVA radiation was used to irradiate unprotected and **sunscreen** protected **skin** sites of the upper back of each patient. Morphological and histological **skin** changes were noted in non-protected test-sites, while no clinical or microscopic changes were observed in the **sunscreen**-treated test-sites. Low minimal erythema dose (MED) values for both UVA and UVB light were noted in several PMLE patients.
CT Check Tags: Female; Human; Male
*Photosensitivity Disorders: PC, prevention & control
*Sunscreening Agents: TU, therapeutic use
*Ultraviolet Rays: AE, adverse effects
CN 0 (Sunscreening Agents)

L41 ANSWER 14 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 2002334206 EMBASE
TI Tanning salons in southwest Poland: A survey of safety standards and professional knowledge of the staff.
AU Szepietowski J.C.; Nowicka D.; Soter K.; Strzelecka E.; Kozera M.; Salomon J.
CS Dr. J.C. Szepietowski, Department of Dermatol./Venereology, University of Medicine, Ul. Chalubinskiego 1, 50-368 Wroclaw, Poland. jszepiet@derm.am.wroc.pl
SO Photodermatology Photoimmunology and Photomedicine, (2002) 18/4 (179-182). Refs: 6
ISSN: 0905-4383 CODEN: PPPHEW
CY Denmark
DT Journal; Article
FS 013 Dermatology and Venereology
037 Drug Literature Index
LA English
SL English
AB Background: Nowadays, sunbeds are very popular worldwide; however - in the majority of countries, including Poland - there are no general guidelines and/or regulations for sunbed usage. Purpose: The aim of the study was to evaluate tanning salons in southwest Poland, paying special attention to safety regulations and basic professional knowledge of the staff members of these units. The hypothesis was put that tanning salons offer better **skin** and eye protection if their employees are more educated. Methods: Fifty-five sunbed units were visited by the investigators, acting as potential clients. Information was obtained from the staff members in response to previously designed questionnaire. Results: Employees of 41.8% of sunbed units had adequate knowledge of radiation used in their establishments. Goggles were provided in 72.7%, sunglasses in additional 25.5% of salons. Lotions with **sunscreens** were available in 41.8% of units. Brief medical history of the client was taken in 20% of units.

No dermatological examination was performed. Tanning salons, where employed staff were well-orientated in ultraviolet radiation **emitted** in their units, significantly more frequently recommended usage of goggles and **sunscreens** (P = 0.0037 and P = 0.0033, respectively). Moreover, in these establishments **sunscreens** were more commonly available (P = 0.0029). Conclusions: The knowledge of staff members of tanning salons is poor and the eye and **skin** protection is not enough. The results point out the importance of the knowledge of the staff members in providing **skin** and eye protection.

CT Medical Descriptors:
*ultraviolet radiation
*radiation protection
*eye protection
***skin protection**
Poland
health survey
safety
standard
staff training
hypothesis
employee
health education
medical information
questionnaire
eye protective device
lotion
anamnesis
dermatological procedures
human
controlled study
article
priority journal
Drug Descriptors:
sunscreen

L41 ANSWER 15 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 1998301920 EMBASE
TI Commercial **sunscreen** lotions prevent ultraviolet radiation-induced depletion of epidermal Langerhans cells in Skh-1 and C3H mice.
AU Beasley D.G.; Montgomery M.A.; Moloney S.J.; Edmonds S.; Roberts L.K.
CS D.G. Beasley, Research and Development, Schering-Plough HealthCare Products, 3030 Jackson Avenue, Memphis, TN 38151, United States
SO Photodermatology Photoimmunology and Photomedicine, (1998) 14/3-4 (90-99). Refs: 43
ISSN: 0905-4383 CODEN: PPPHEW
CY Denmark
DT Journal; Article
FS 013 Dermatology and Venereology
046 Environmental Health and Pollution Control
LA English
SL English
AB There is much controversy regarding the ability of **sunscreens** to prevent ultraviolet (UV)-induced immune suppression. Epidermal Langerhans cells (LC) play a key antigen-presenting role in the afferent limb of the immune system's response to antigens introduced through the **skin** . It has been suggested that depletion of LC in UV-exposed **skin** is a critical step toward the induction of immunosuppression by UV radiation. There are a number of disparate reports with inconsistent results concerning the ability of **sunscreens** to prevent UV-induced depletion of LC. The purpose of this study was to systematically evaluate the ability of **sunscreens** to prevent UV-induced LC depletion in mice. Epidermal sheets obtained from **skin**

biopsies taken from mice exposed to UV radiation from Kodacel-filtered FS20 sunlamps, which do not **emit** UV power at wavelengths <290 nm, were immunoperoxidase stained for LC using a rat monoclonal antibody against mouse Ia (major histocompatibility complex class II antigen). Time course and dose-response curves for LC depletion were generated for Skh-1 and C3H mice. Dose-response curves for acute UV exposure induced depletion of LC in Skh-1 and C3H mice were similar, but not identical. LC density in the **skin** of Skh-1 mice that received chronic UV exposure (3 days/week for 8 weeks) was reduced by 62% after 2 weeks of exposure, but returned to normal levels by 6 weeks. Five commercial **sunscreen** lotions with labeled sun protection factors (SPF) of 4, 8, 15, 30 and 45 were tested for their capacity to block UV-induced depletion of LC. LC were depleted .apprx.75% in the **skin** of unprotected or placebo lotion treated Skh-1 mice exposed to UV given on two consecutive days. Conversely, LC depletion was prevented in similarly UV exposed Skh-1 mice protected with a SPF 30 **sunscreen**. In C3H mice the levels of protection against LC depletion provided by the five **sunscreens** were proportional to the level of protection predicted by their labeled SPF. Comparisons of dose-response curves showed that significantly higher doses of UV were required for LC depletion and induction of **skin** edema than for the induction of local suppression of contact hypersensitivity. Thus, at UV doses where **sunscreens** provide complete protection against immunosuppression of contact hypersensitivity, prevention of LC depletion and **skin** edema would be expected.

CT Medical Descriptors:
*langerhans cell
*immune deficiency
***skin edema**
*contact allergy
lotion
ultraviolet radiation
radiation protection
skin protection
skin biopsy
radiation dose
nonhuman
female
mouse
animal experiment
animal model
controlled study
animal tissue
article
priority journal
Drug Descriptors:
***sunscreen**
Ia antigen: EC, endogenous compound
major histocompatibility antigen class 2: EC,

L41 ANSWER 12 OF 32 MEDLINE
AN 96242939 MEDLINE
DN 96242939 PubMed ID: 8992508
TI Ultraviolet spectral energy differences affect the ability of **sunscreen** lotions to prevent ultraviolet-radiation-induced immunosuppression.
AU Roberts L K; Beasley D G; Learn D B; Giddens L D; Beard J; Stanfield J W
CS Schering-Plough HealthCare Products, Memphis, TN 38151, USA.
SO PHOTOCHEMISTRY AND PHOTOBIOLOGY, (1996 Jun) 63 (6) 874-84.
Journal code: 0376425. ISSN: 0031-8655.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199701
ED Entered STN: 19970128
Last Updated on STN: 19970128
Entered Medline: 19970116
AB Acute exposure to UV radiation causes immunosuppression of contact hypersensitivity (CH) responses. Past studies conducted with unfiltered sunlamps **emitting** nonsolar spectrum UV power (wavelengths below 295 nm) or using excessive UV doses have suggested **sunscreens** may not prevent UV-induced immunosuppression in mice. This study was thus designed to evaluate critically the effects of different UV energy spectra on the immune protection capacity of **sunscreen** lotions. Minimum immune suppression doses (MISD), i.e. the lowest UV dose to cause approximately 50% suppression of the CH response to dinitrofluorobenzene in C3H mice, were established for three artificial UV sources. The MISD for each UV source was 0.25 kJ/m2 for unfiltered FS20 sunlamps (FS), 0.90 kJ/m2 for Kodacel-filtered FS20 sunlamps (KFS), which do not **emit** UV power at wavelengths < 290 nm, and 1.35 kJ/m2 for a 1000 W filtered xenon arc lamp solar simulator. Using MISD as baseline, **sunscreens** with labeled sun protection factors (SPF) of 4, 8, 15 and 30 were tested with each UV source to establish their relative immune protection factors. The immune protection factor of each **sunscreen** exceeded its labeled SPF in tests conducted with the solar simulator, which has a UV power spectrum (295-400 nm) similar to that of sunlight. Conversely, **sunscreen** immune protection factors were significantly less than the labeled SPF in tests conducted with FS and KFS. Comparison of the immunosuppression effectiveness spectra showed that relatively small amounts of nonsolar spectrum UV energy, i.e. UVC (200-290 nm) and/or shorter wavelength UVB (between 290 and 295 nm), produced by FS and KFS contributes significantly to the induction of immunosuppression. For example, 36.3% and 3.5% of the total immunosuppressive UV energy from FS and KFS, respectively, lies below 295 nm. **Sunscreen** absorption spectra showed that transmission of immunosuppressive UV energy below 295 nm for FS was at least eight-fold higher than that for KFS. Compared to the solar simulator UV spectrum the transmission of nonsolar immunosuppressive UV energy through **sunscreens** was > 15-fold higher for FS and > or = 1.5-fold higher for KFS. These data demonstrate that relevant evaluations of **sunscreen** immune protection can only be obtained when tests are conducted with UV sources that produce UV power spectra similar to that of sunlight and UV doses are employed that are based on established MISD.
CT Check Tags: Animal; Female
Dermatitis, Contact: PC, prevention & control
Dose-Response Relationship, Radiation
*Immune Tolerance: DE, drug effects
*Immune Tolerance: RE, radiation effects
Mice
Mice, Inbred C3H
Photobiology
Skin: DE, drug effects

Skin: IM, immunology
Skin: RE, radiation effects
*Sunscreening Agents: PD, pharmacology
*Ultraviolet Rays: AE, adverse effects
CN 0 (Sunscreening Agents)

L41 ANSWER 11 OF 32 MEDLINE
AN 97368844 MEDLINE
DN 97368844 PubMed ID: 9225458
TI **Sunscreens** prevent local and systemic immunosuppression of contact hypersensitivity in mice exposed to solar-simulated ultraviolet radiation.
AU Roberts L K; Beasley D G
CS Advanced Product Research, Schering-Plough HealthCare Products, Memphis, TN 38151, USA.
SO JOURNAL OF PHOTOCHEMISTRY AND PHOTOBIOLOGY. B, BIOLOGY, (1997 Jun) 39 (2) 121-9.
Journal code: 8804966. ISSN: 1011-1344.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199709
ED Entered STN: 19970916
Last Updated on STN: 19970916
Entered Medline: 19970903
AB Ultraviolet (UV) irradiation causes the immunosuppression of contact hypersensitivity (CH) responses in animals and humans. There are conflicting reports regarding the effectiveness of **sunscreens** in preventing UV-induced suppression of both local-type CH (induced by the application of the contact sensitizer directly to UV-exposed **skin**) and systemic-type CH (induced by the application of the contact sensitizer to an unirradiated **skin** site 3 days after UV exposure). The purposes of this study were as follows: 1. to derive solar simulator UV dose-response curves for the induction of local and systemic CH suppression in C3H mice; 2. to establish minimum immune suppression doses (MISDs) for local and systemic CH; 3. to determine the local and systemic immune protection capacity of two commercial **sunscreen** lotions with labeled sun protection factors (SPFs) of 4 and 8. Dose-response curves for the induction of local and systemic CH suppression were derived by exposing groups of mice to a range of full-spectrum UV doses (0.37-21.4 kJ m-2) on two consecutive days delivered from a filtered 1000 W xenon arc lamp solar simulator. The MISDs, defined as the lowest dose tested to cause approximately 50% suppression of the normal CH response, were obtained from the dose-response curves. Although the local and systemic immunosuppression dose-response curves were not statistically different, the MISD for local suppression of CH (1.35 kJ m-2) was about fivefold lower than that for systemic CH suppression (6.76 kJ m-2). The MISD was used as the endpoint to determine **sunscreen** immune protection levels. Both **sunscreens**, applied at 2 mg cm-2, provided immune protection against the induction of local and systemic CH suppression in mice exposed to an effective UV dose of 1 MISD given through the **sunscreen**, i.e. 4 MISD to SPF 4 **sunscreen**-protected mice and 8 MISD to SPF 8 **sunscreen**-protected mice mounted CH responses that were significantly greater than those elicited in unprotected mice exposed to 1 MISD of solar-simulated UV radiation. The calculated immune protection factors for these **sunscreens** exceeded the level of protection predicted by their labeled SPFs, i.e. the local immune protection factor of both **sunscreens** was 15 and the systemic immune protection factors were 8 for the SPF 4 **sunscreen** and 15 for the SPF 8 **sunscreen**. Our data show that these two **sunscreens** provide levels of immune protection which exceed the levels predicted by their labeled SPFs in immunoprotection tests conducted in mice exposed to a relevant MISD of UV radiation from a source **emitting** a UV power spectrum similar to that of sunlight.
CT Check Tags: Animal; Female
*Dermatitis, Contact: IM, immunology
*Immunosuppression
Mice

Mice, Inbred C3H
Skin: DE, drug effects
Skin: RE, radiation effects
*Sunscreening Agents: PD, pharmacology
*Ultraviolet Rays
CN 0 (Sunscreening Agents)

L41 ANSWER 9 OF 32 MEDLINE
AN 2002633042 MEDLINE
DN 22279039 PubMed ID: 12390672
TI Tanning salons in southwest Poland: a survey of safety standards and professional knowledge of the staff.
AU Szepietowski Jacek C; Nowicka Danuta; Soter Katarzyna; Strzelecka Ewa; Kozera Marzena; Salomon Joanna
CS Department of Dermatology and Venereology, University of Medicine, Wroclaw, Poland.. jszepiet@derm.am.wroc.pl
SO PHOTODERMATOLOGY, PHOTOIMMUNOLOGY AND PHOTOMEDICINE, (2002 Aug) 18 (4) 179-82.
Journal code: 9013641. ISSN: 0905-4383.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200212
ED Entered STN: 20021023
Last Updated on STN: 20021220
Entered Medline: 20021219
AB BACKGROUND: Nowadays, sunbeds are very popular worldwide; however--in the majority of countries, including Poland--there are no general guidelines and/or regulations for sunbed usage. PURPOSE: The aim of the study was to evaluate tanning salons in southwest Poland, paying special attention to safety regulations and basic professional knowledge of the staff members of these units. The hypothesis was put that tanning salons offer better **skin** and eye protection if their employees are more educated. METHODS: Fifty-five sunbed units were visited by the investigators, acting as potential clients. Information was obtained from the staff members in response to previously designed questionnaire. RESULTS: Employees of 41.8% of sunbed units had adequate knowledge of radiation used in their establishments. Goggles were provided in 72.7%, sunglasses in additional 25.5% of salons. Lotions with **sunscreens** were available in 41.8% of units. Brief medical history of the client was taken in 20% of units. No dermatological examination was performed. Tanning salons, where employed staff were well-orientated in ultraviolet radiation **emitted** in their units, significantly more frequently recommended usage of goggles and **sunscreens** ($P = 0.0037$ and $P = 0.0033$, respectively). Moreover, in these establishments **sunscreens** were more commonly available ($P = 0.0029$). CONCLUSIONS: The knowledge of staff members of tanning salons is poor and the eye and **skin** protection is not enough. The results point out the importance of the knowledge of the staff members in providing **skin** and eye protection.
CT Check Tags: Human
Adolescent
Adult
*Beauty Culture
Child
Data Collection
Educational Status
Eye Protective Devices
Poland
Prospective Studies
Radiation Protection
Safety
***Skin: RE, radiation effects**
Sunlight
Sunscreening Agents: AD, administration & dosage
*Ultraviolet Rays: AE, adverse effects
CN 0 (Sunscreening Agents)

L41 ANSWER 10 OF 32 MEDLINE

AN 1998452531 MEDLINE
DN 98452531 PubMed ID: 9779495
TI Commercial **sunscreen** lotions prevent ultraviolet radiation-induced depletion of epidermal Langerhans cells in Skh-1 and C3H mice.
AU Beasley D G; Montgomery M A; Moloney S J; Edmonds S; Roberts L K
CS Schering-Plough HealthCare Products, Memphis, TN 38151, USA.
SO PHOTODERMATOLOGY, PHOTOIMMUNOLOGY AND PHOTOMEDICINE, (1998 Jun-Aug) 14 (3-4) 90-9.
Journal code: 9013641. ISSN: 0905-4383.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199812
ED Entered STN: 19990115
Last Updated on STN: 19990115
Entered Medline: 19981221
AB There is much controversy regarding the ability of **sunscreens** to prevent ultraviolet (UV)-induced immune suppression. Epidermal Langerhans cells (LC) play a key antigen-presenting role in the afferent limb of the immune system's response to antigens introduced through the **skin** . It has been suggested that depletion of LC in UV-exposed **skin** is a critical step toward the induction of immunosuppression by UV radiation. There are a number of disparate reports with inconsistent results concerning the ability of **sunscreens** to prevent UV-induced depletion of LC. The purpose of this study was to systematically evaluate the ability of **sunscreens** to prevent UV-induced LC depletion in mice. Epidermal sheets obtained from **skin** biopsies taken from mice exposed to UV radiation from Kodacel-filtered FS20 sunlamps, which do not **emit** UV power at wavelengths < 290 nm, were immunoperoxidase stained for LC using a rat monoclonal antibody against mouse Ia (major histocompatibility complex class II antigen). Time course and dose-response curves for LC depletion were generated for Skh-1 and C3H mice. Dose-response curves for acute UV exposure induced depletion of LC in Skh-1 and C3H mice were similar, but not identical. LC density in the **skin** of Skh-1 mice that received chronic UV exposure (3 days/week for 8 weeks) was reduced by 62% after 2 weeks of exposure, but returned to normal levels by 6 weeks. Five commercial **sunscreen** lotions with labeled sun protection factors (SPF) of 4, 8, 15, 30 and 45 were tested for their capacity to block UV-induced depletion of LC. LC were depleted approximately 75% in the **skin** of unprotected or placebo lotion treated Skh-1 mice exposed to UV given on two consecutive days. Conversely, LC depletion was prevented in similarly UV exposed Skh-1 mice protected with a SPF 30 **sunscreen**. In C3H mice the levels of protection against LC depletion provided by the five **sunscreens** were proportional to the level of protection predicted by their labeled SPF. Comparisons of dose-response curves showed that significantly higher doses of UV were required for LC depletion and induction of **skin** edema than for the induction of local suppression of contact hypersensitivity. Thus, at UV doses where **sunscreens** provide complete protection against immunosuppression of contact hypersensitivity, prevention of LC depletion and **skin** edema would be expected.
CT Check Tags: Animal; Female; In Vitro
Cell Count
Dose-Response Relationship, Radiation
*Epidermis: CY, cytology
Immunoenzyme Techniques
Langerhans Cells: CY, cytology
Langerhans Cells: DE, drug effects
*Langerhans Cells: RE, radiation effects
Mice
Mice, Inbred C3H

Mice, Inbred HRS
Mice, Inbred Strains
*Sunscreening Agents: PD, pharmacology
*Ultraviolet Rays
CN 0 (Sunscreening Agents)

L41 ANSWER 6 OF 32 CAPLUS COPYRIGHT 2003 ACS
AN 1997:259032 CAPLUS
DN 126:297453
TI Broad-spectrum **sunscreens** with UVA I and UVA II absorbers provide increased protection against solar-simulating radiation-induced dermal damage in hairless mice
AU Kligman, Lorraine H.; Agin, Patricia P.; Sayre, Robert M.
CS Department of Dermatology, University of Pennsylvania School of Medicine, Philadelphia, PA, 19104-6142, USA
SO Journal of the Society of Cosmetic Chemists (1996), 47(3), 129-155
CODEN: JSCCA5; ISSN: 0037-9832
PB Society of Cosmetic Chemists
DT Journal
LA English
CC 62-4 (Essential Oils and Cosmetics)
AB Previous expts. designed to examine **sunscreen** protection against chronic UV radiation-induced **skin** damage in hairless mice have used radiation sources **emitting** mainly UVB or UVA radiation. Because humans are exposed to full-spectrum solar radiation, we were interested in examg. the efficacy of 3 **sunscreens**, with increasing spectral absorption into the UVA range, against chronic solar-simulating radiation (SSR). Three groups of hairless mice received a cumulative SSR dose of 10 and 16 times a previously detd. minimal photoaging dose (MPD) over periods of 18 and 30 wk. Each twice-weekly exposure was designed to equal the SPF value of the first **sunscreen**, an SPF-7 **sunscreen** contg. the UVB absorber octyl methoxycinnamate. The second **sunscreen**, in addn. to the UVB absorber, contained a UVA II absorber (oxybenzone) and had an SPF of 16. The third, with an SPF of 18, contained the UVB and UVA II absorbers plus a UVA I absorber (avobenzone). These conditions allowed assessment of the effects of UVB and UVA radiation that are normally transmitted through all **sunscreens**. Although none of the **sunscreen** -treated mice developed erythema, considerable dermal matrix damage occurred in the SPF-7 group, with greater damage at 16 MPD than at 10 MPD. The SPF-16 **sunscreen** allowed less but clearly recognizable damage at both dose points. The SPF-18 **sunscreen** with the broadest spectral absorption provided the greatest protection. These results support the need for high-SPF broad-spectrum sun-screen protection that includes the entire UVA spectrum to reduce photodamage that results from chronic exposure to sunlight.
ST **sunscreen** UVA absorber solar radiation
IT Erythema
Skin
Solar radiation
Sunscreens
UV A radiation
(**sunscreens** with UVA absorbers for protection against solar radiation-induced dermal damage)
IT 131-57-7, Oxybenzone 5466-77-3 70356-09-1, Avobenzone
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(**sunscreens** with UVA absorbers for protection against solar radiation-induced dermal damage)

L41 ANSWER 7 OF 32 CAPLUS COPYRIGHT 2003 ACS
AN 1992:37060 CAPLUS
DN 116:37060
TI Photocarcinogenesis and consumer product testing: technical aspects
AU Sambuco, C. P.; Davies, R. E.; Forbes, P. D.; Hoberman, A. M.
CS Cent. Photobiol., Argus, Inc., Horsham, PA, 19044, USA
SO Toxicology Methods (1991), 1(1), 75-83
CODEN: TOMEEB; ISSN: 1051-7235
DT Journal

LA English
CC 8-6 (Radiation Biochemistry)
Section cross-reference(s): 63
AB Photocarcinogenesis is the induction of tumors by sunlight. Since consumer products have been found to modify the course of cutaneous photocarcinogenesis in animal models, and since this modification is thought to be clin. relevant, procedures have been developed and implemented to evaluate a test article/substance as a potential modifier of photocarcinogenesis. Prior to beginning a photocarcinogenesis study, range-finding studies are conducted to detn. certain characteristics of the test article/substance and its vehicle (e.g., primary irritancy, photosensitivity, and photoprotection). Addnl., the doses of test article/substance, the doses of sunlight exposure, and the most appropriate sequence for administering these 2 variables are detd. from the range-finding studies and the intended use of the test article/substance. The test system is the Crl:SKH1 (h/h)BR, albino, hairless mouse. The source of "sunlight" is a 6.5 kW xenon arc lamp modified to **emit** radiation that stimulates sunlight at the earth's surface. Methods for gathering and analyzing tumor data are discussed, and a theor. study is used to facilitate the presentation. Three possible outcomes of this theor. study are presented, and some unique features of the study are given. Any agent that can modify the carcinogenic effect of sunlight should be carefully considered with respect to its benefits and risks.
ST photocarcinogenesis consumer product
IT **Sunscreens**
(photocarcinogenesis modification by, testing of)
IT Health physics
(photocarcinogenesis response to consumer products testing in relation to)
IT Neoplasm
Skin, neoplasm
(solar UV radiation induction of, consumer products modification of, testing of)
IT Ultraviolet radiation
(solar, carcinogenesis induction by, consumer products modification of, testing of)

L41 ANSWER 8 OF 32 CAPLUS COPYRIGHT 2003 ACS
AN 1985:427050 CAPLUS
DN 103:27050
TI A rapid non-injurious method to evaluate the light protective potential of **sunscreens**
AU Sauermann, Gerhard; Hoppe, Udo
CS Dev. Cosmed., Beiersdorf A.-G., Hamburg, D-2000, Fed. Rep. Ger.
SO Journal of the Society of Cosmetic Chemists (1985), 36(2), 125-41
CODEN: JSCCA5; ISSN: 0037-9832
DT Journal
LA English
CC 62-1 (Essential Oils and Cosmetics)
AB Fluorescing mols. (dansyl residues) within the horny layer **emit** fluorescent light in direct relation to the intensity of the exciting beam. This was used in evaluation of the light protective potential of **sunscreens**. The attenuation of the exciting beam by light-absorbing **sunscreens** covering the surface of the **skin** is followed by a corresponding decrease of **emitted** light (fluorescence). This can be easily measured by com. fluorometers. Addnl. factors are the angle of radiation incidence, the placebo formula (vehicles), and other fluorescing products or ingredients. Light-protection factors measured by the biol. MED-based method and the described fluorescence method are comparable, though the values detd. by the latter using the described optical array tend to be higher. Water resistance and time-dependent changes of the protective effects of **sunscreens** are evaluated. The decrease of fluorescence caused by

desquamation and tape stripping is detd.

ST **sunscreen** light protective potential; fluorescence
sunscreen light protection

IT Fluorescence
(in light protective potential of **sunscreens** evaluation)

IT Sunburn and Suntan
(**sunscreens**, light protective potential of, evaluation of)

IT 605-65-2
RL: BIOL (Biological study)
(in light protective potential of **sunscreens** evaluation)

IT 830-09-1D, esters
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**sunscreens** contg., light protective potential of, evaluation of)

L41 ANSWER 5 OF 32 CAPLUS COPYRIGHT 2003 ACS
AN 1997:376744 CAPLUS
DN 127:47140
TI **Sunscreens** prevent local and systemic immunosuppression of contact hypersensitivity in mice exposed to solar-simulated ultraviolet radiation
AU Roberts, Lee K.; Beasley, Donathan G.
CS Advanced Product Research, AR-3-59, Schering-Plough HealthCare Products, 3030 Jackson Avenue, Memphis, TN, 38151, USA
SO Journal of Photochemistry and Photobiology, B: Biology (1997), 39(2), 121-129
CODEN: JPPBEG; ISSN: 1011-1344
PB Elsevier
DT Journal
LA English
CC 8-7 (Radiation Biochemistry)
AB UV irradn. causes the immunosuppression of contact hypersensitivity (CH) responses in animals and humans. There are conflicting reports regarding the effectiveness of **sunscreens** in preventing UV-induced suppression of both local-type CH (induced by the application of the contact sensitizer directly to UV-exposed **skin**) and systemic-type CH (induced by the application of the contact sensitizer to an unirradiated **skin** site 3 days after UV exposure). The purposes of this study were as follows: 1. to derive solar simulator UV dose-response curves for the induction of local and systemic CH suppression in C3H mice; 2. to establish min. immune suppression doses (MISDs) for local and systemic CH; 3. to det. the local and systemic immune protection capacity of two com. **sunscreen** lotions with labeled sun protection factors (SPFs) of 4 and 8. Dose-response curves for the induction of local and systemic CH suppression were derived by exposing groups of mice to a range of full-spectrum UV doses (0.37-21.4 kJ m-2) on two consecutive days delivered from a filtered 1000 W xenon arc lamp solar simulator. The MISDs, defined as the lowest dose tested to cause approx. 50% suppression of the normal CH response, were obtained from the dose-response curves. Although the local and systemic immunosuppression dose-response curves were not statistically different, the MISD for local suppression of CH (1.35 kJ m-2) was about fivefold lower than that for systemic CH suppression (6.76 kJ m-2). The MISD was used as the endpoint to det. **sunscreen** immune protection levels. Both **sunscreens**, applied at 2 mg cm-2, provided immune protection against the induction of local and systemic CH suppression in mice exposed to an effective UV dose of 1 MISD given through the **sunscreen**, i.e., 4 MISD to SPF 4 **sunscreen**-protected mice and 8 MISD to SPF 8 **sunscreen**-protected mice mounted CH responses that were significantly greater than those elicited in unprotected mice exposed to 1 MISD of solar-simulated UV radiation. The calcd. immune protection factors for these **sunscreens** exceeded the level of protection predicted by their labeled SPFs, i.e. the local immune protection factor of both **sunscreens** was 15 and the systemic immune protection factors were 8 for the SPF 4 **sunscreen** and 15 for the SPF 8 **sunscreen**. Our data show that these two **sunscreens** provide levels of immune protection which exceed the levels predicted by their labeled SPFs in immunoprotection tests conducted in mice exposed to a relevant MISD of UV radiation from a source **emitting** a UV power spectrum similar to that of sunlight.
ST **sunscreen** immunosuppression solar UV
IT Dermatitis
(allergic, contact; **sunscreens** prevent local and systemic immunosuppression of contact hypersensitivity in mice exposed to solar-simulated UV radiation)
IT Solar UV radiation
Sunscreens
(**sunscreens** prevent local and systemic immunosuppression of contact hypersensitivity in mice exposed to solar-simulated UV

radiation)

IT Immunosuppression
(systemic; **sunscreens** prevent local and systemic immunosuppression of contact hypersensitivity in mice exposed to solar-simulated UV radiation)

IT 131-57-7, Oxybenzone 96436-87-2
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**sunscreens** prevent local and systemic immunosuppression of contact hypersensitivity in mice exposed to solar-simulated UV radiation)

L41 ANSWER 4 OF 32 CAPLUS COPYRIGHT 2003 ACS
AN 1998:608016 CAPLUS
DN 129:347125
TI Commercial **sunscreen** lotions prevent ultraviolet radiation-induced depletion of epidermal Langerhans cells in Skh-1 and C3H mice
AU Beasley, D. G.; Montgomery, M. A.; Moloney, S. J.; Edmonds, S.; Roberts, L. K.
CS Research and Development, Schering-Plough HealthCare Products, Memphis, TN, 38151, USA
SO Photodermatology, Photoimmunology & Photomedicine (1998), 14(3/4), 90-99
CODEN: PPPHEW; ISSN: 0905-4383
PB Munksgaard International Publishers Ltd.
DT Journal
LA English
CC 62-4 (Essential Oils and Cosmetics)
Section cross-reference(s): 8
AB There is much controversy regarding the ability of **sunscreens** to prevent UV (UV)-induced immune suppression. Epidermal Langerhans cells (LC) play a key antigen-presenting role in the afferent limb of the immune system's response to antigens introduced through the **skin**. It has been suggested that depletion of LC in UV-exposed **skin** is a crit. step toward the induction of immunosuppression by UV radiation. There are a no. of disparate reports with inconsistent results concerning the ability of **sunscreens** to prevent UV-induced depletion of LC. The purpose of this study was to systematically evaluate the ability of **sunscreens** to prevent UV-induced LC depletion in mice. Epidermal sheets obtained from **skin** biopsies taken from mice exposed to UV radiation from Kodacel-filtered FS20 sunlamps, which do not **emit** UV power at wavelengths <290 nm, were immunoperoxidase stained for LC using a rat monoclonal antibody against mouse Ia (major histocompatibility complex class II antigen). Time course and dose-response curves for LC depletion were generated for Skh-1 and C3H mice. Dose-response curves for acute UV exposure induced depletion of LC in Skh-1 and C3H mice were similar, but not identical. LC d. in the **skin** of Skh-1 mice that received chronic UV exposure (3 days/wk for 8 wk) was reduced by 62% after 2 wk of exposure, but returned to normal levels by 6 wk. Five com. **sunscreen** lotions with labeled sun protection factors (SPF) of 4, 8, 15, 30 and 45 were tested for their capacity to block UV-induced depletion of LC. LC were depleted .apprx.75% in the **skin** of unprotected or placebo lotion treated Skh-1 mice exposed to UV given on two consecutive days. Conversely, LC depletion was prevented in similarly UV exposed Skh-1 mice protected with a SPF 30 **sunscreen**. In C3H mice the levels of protection against LC depletion provided by the five **sunscreens** were proportional to the level of protection predicted by their labeled SPF. Comparisons of dose-response curves showed that significantly higher doses of UV were required for LC depletion and induction of **skin** edema than for the induction of local suppression of contact hypersensitivity. Thus, at UV doses where **sunscreens** provide complete protection against immunosuppression of contact hypersensitivity, prevention of LC depletion and **skin** edema would be expected.
ST **sunscreen** epidermal Langerhans cell UV radiation
IT **Sunscreens**
(Coppertone; **sunscreen** lotions prevent UV radiation-induced depletion of epidermal Langerhans cells)
IT **Skin**
(Langerhans' cell; **sunscreen** lotions prevent UV radiation-induced depletion of epidermal Langerhans cells)
IT Dermatitis
(contact; **sunscreen** lotions prevent UV radiation-induced depletion of epidermal Langerhans cells)
IT **Skin**, disease

Skin, disease
(edema; **sunscreen** lotions prevent UV radiation-induced depletion of epidermal Langerhans cells)

IT **Skin**
(epidermis; **sunscreen** lotions prevent UV radiation-induced depletion of epidermal Langerhans cells)

IT Immunosuppression
Skin
UV radiation
(**sunscreen** lotions prevent UV radiation-induced depletion of epidermal Langerhans cells)

IT 118-56-9, Homosalate 118-60-5, Octyl salicylate 131-57-7, Oxybenzone 5466-77-3, Octyl p-methoxycinnamate 6197-30-4, Octocrylene
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**sunscreen** lotions prevent UV radiation-induced depletion of epidermal Langerhans cells)

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L41 ANSWER 3 OF 32 CAPLUS COPYRIGHT 2003 ACS
AN 2000:10521 CAPLUS
DN 132:69093
TI **Skin** protectant comprising 5-substituted and 5,5-disubstituted 3,4-dihydroxy-2(5H)-furanones
IN Ziemniak, John A.; Hopper, Allen T.; Pugliese, Peter T.
PA Oxis International, Inc., USA
SO U.S., 6 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K007-42
ICS A61K007-00; A61K031-34
NCL 424059000
CC 62-4 (Essential Oils and Cosmetics)
Section cross-reference(s): 1, 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6010685	A	20000104	US 1999-264659	19990308
PRAI US 1999-264659		19990308		

OS MARPAT 132:69093
AB Formulations of racemic or optically active 3,4-dihydroxy-5-aryl-2(5H)-furanones are provided for topical administration to the **skin** for the inhibition and prevention of sunburn cell formation resulting from exposure to UV radiation and other sources of damage, and for the treatment of **skin** aging. The compds. may be formulated in combination with a **sunscreen**, and may be applied before, during, and/or after exposure. Male and female hairless mice of at least 8 wk old were used in the study. Male and female hairless mice of at least 8 wk old were used in the study. The mice were conditioned in the lab. for 1-2 wk, and subjected to a 24-h day/night cycle. 5-[(1,1'-Biphenyl)-4-yl]-3,4-dihydroxy-2(5H)-furanone (BPHTA) was prepd. as a formulation in a mixt. of 50% oleic acid and 50% SD39 (denatured ethanol). Formulations contg. 1% BPHTA and 2.5% BPHTA were prepd. Two mice were used for each test compn.; two mice untreated before UV irradn. served as controls. UV lamps **emitting** UVB, were used to supply the UV energy. The mice were exposed to UVB for 1.75 min for a dose of 70 mj/cm2, and then sacrificed 24 h later by cervical dislocation. The **skin** was removed and processed for histol. staining (hematoxylin and eosin). The percent redn. was 31 and 69, resp., for the 2 BHPA formulations.
ST furanone hydroxy **skin** protectant UV; **sunscreen** hydroxyfuranone **skin**; sunburn hydroxyfuranone
IT **Skin**, disease
(aging; **skin** protectant compns. contg. dihydroxyfuranones)
IT Drug delivery systems
Photoprotectants
Sunscreens
(**skin** protectant compns. contg. dihydroxyfuranones)
IT Drug delivery systems
(topical; **skin** protectant compns. contg. dihydroxyfuranones)
IT 79821-07-1 139572-59-1 203863-19-8 203863-20-1 203863-22-3 210557-46-3 253325-76-7 253325-77-8
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**skin** protectant compns. contg. dihydroxyfuranones)
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Wenk; US 4426380 1984 CAPLUS

L41 ANSWER 2 OF 32 CAPLUS COPYRIGHT 2003 ACS
AN 2001:213008 CAPLUS
DN 136:50588
TI Photoacoustic trace gas detection of ethene released by UV-induced lipid peroxidation in humans
AU Cristescu, Simona M.; Berkelmans, Rik; te Lintel Hekkert, Sacco; Timmerman, Brenda H.; Parker, David H.; Harren, Frans J. M.
CS Dept. of Molecular and Laser Physics, Univ. of Nijmegen, Njimegen, 6500 GL, Neth.
SO Proceedings of SPIE-The International Society for Optical Engineering (2000), 4162(Controlling Tissue Optical Properties), 101-107
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 8
AB A sensitive CO2 laser-based photoacoustic (PA) detector has been used to perform non-invasive and online measurements of ethene (C2H4) prodn. from exhaled air and directly **emitted** from the **skin**. Ethene was used as indicator for free-radicals induced lipid peroxidn. in the **skin** of human subjects exposed to UV radiation from a solarium. Ethene from the exhaled air was analyzed for a group of 21 male subjects at rest. During 15 min of UV exposure, the av. ethene emission was 17.2 pmol/kg/min (SD 7.3), while the pre-UV exposure levels were 1.4 pmol/kg/min (SD 0.38). Different types of sun protection creams were tested by means of ethene release in exhaled air. The influence of UV radiation intensity and of exposure time (10 and 15 min, resp.) on the ethene emission from the **skin** has been studied for a second group of 12 subjects. Comparison between measurements of exhaled air and directly on the **skin** is presented.
ST photoacoustic gas detection ethene UV lipid peroxidn
IT Lasers
(carbon dioxide; photoacoustic trace gas detection of ethene released by UV-induced lipid peroxidn. in humans)
IT Respiratory air
(exhaled; photoacoustic trace gas detection of ethene released by UV-induced lipid peroxidn. in humans)
IT Peroxidation
(lipid; photoacoustic trace gas detection of ethene released by UV-induced lipid peroxidn. in humans)
IT Lipids, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(peroxidn.; photoacoustic trace gas detection of ethene released by UV-induced lipid peroxidn. in humans)
IT Acoustic devices
(photoacoustic devices; photoacoustic trace gas detection of ethene released by UV-induced lipid peroxidn. in humans)
IT Human
Skin
Sunscreens
Time
UV radiation
(photoacoustic trace gas detection of ethene released by UV-induced lipid peroxidn. in humans)
IT 74-85-1, Ethene, analysis
RL: ANT (Analyte); ANST (Analytical study)
(photoacoustic trace gas detection of ethene released by UV-induced lipid peroxidn. in humans)
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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L41 ANSWER 1 OF 32 CAPLUS COPYRIGHT 2003 ACS
AN 2002:10251 CAPLUS
DN 136:74320
TI Cosmetic and pharmaceutical compositions containing green-light **emitting** materials
IN Rein, Glen; George, Liliana; Cioca, Gheorge; Comorosan, Sorin
PA E-L Management Corp., USA
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K007-48
ICS A61K033-04; A61K033-06; A61K033-22; A61K033-30
CC 62-4 (Essential Oils and Cosmetics)
Section cross-reference(s): 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002000190	A1	20020103	WO 2001-US11612	20010410
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1296639	A1	20030402	EP 2001-923244	20010410
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				

PRAI US 2000-604536 A 20000627
WO 2001-US11612 W 20010410

AB The present invention relates to cosmetic and pharmaceutical compns. and methods for use of green-light **emitting** materials. Based on the obsd. effect of green light on oxygen radical concn. in treated **skin** cells vs. untreated controls, the green-light **emitting** material can be used as an antioxidant to protect the **skin** cells against damage caused by oxygen free radicals, as well as protecting the **skin** against the damaging effects of UV radiation. Examples of green light **emitting** materials include green phosphorescent or fluorescent materials, such as pigments or minerals. The green light had a protective effect against UV damage. However, the magnitude of the protective effect was dependent on the dose, with green light being less protective against higher doses of UVB.

ST green light **emitting** pigment pharmaceutical cosmetic; mineral green light antioxidant

IT Antioxidants
Cosmetics
Drug delivery systems
Fluorescent substances
Phosphorescent substances
Pigments, nonbiological
Sunscreens
(cosmetic and pharmaceutical compns. contg. green-light **emitting** materials)

IT Minerals, biological studies
Oxides (inorganic), biological studies
Rare earth metals, biological studies
RL: COS (Cosmetic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cosmetic and pharmaceutical compns. contg. green-light **emitting** materials)

IT Light
Pigments, nonbiological
(green; cosmetic and pharmaceutical compns. contg. green-light **emitting** materials)

IT Pigments, nonbiological
(phosphorescent; cosmetic and pharmaceutical compns. contg. green-light

emitting materials)

IT Metals, biological studies
RL: COS (Cosmetic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(plated with copper or rare earth metal; cosmetic and pharmaceutical compns. contg. green-light **emitting** materials)

IT 1314-98-3, Zinc sulfide, biological studies
RL: COS (Cosmetic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(copper- or manganese-doped; cosmetic and pharmaceutical compns. contg. green-light **emitting** materials)

IT 37341-47-2, Zinc borosilicate
RL: COS (Cosmetic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(copper- or rare earth metal-doped; cosmetic and pharmaceutical compns. contg. green-light **emitting** materials)

IT 7782-44-7, Oxygen, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cosmetic and pharmaceutical compns. contg. green-light **emitting** materials)

IT 7440-46-2D, Cesium, salts 13397-26-7, Calcite, biological studies 42617-47-0, Strontium aluminate
RL: COS (Cosmetic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cosmetic and pharmaceutical compns. contg. green-light **emitting** materials)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

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